



THE CITY OF SAN DIEGO
REPORT TO THE CITY COUNCIL

DATE ISSUED: January 26, 2006 REPORT NO: 06-013

ATTENTION: Council President and City Council
Council Docket of January 30, 2006

SUBJECT: Power Purchase Agreement between the City of San Diego and Sun Edison SD LLC.

REQUESTED ACTION:

Approve a Power Purchase Agreement between the City of San Diego and Sun Edison SD LLC to generated electricity from the installation of approximately 928 kilowatts of Photovoltaic at the Alvarado Filtration Plant.

STAFF'S RECOMENDATIONS - Authorize the City Council to:

- 1) Enter into a (20) twenty year Power Purchase Agreement with Sun Edison SD LLC for the purpose of purchasing 1.39 million kilowatt hours (kWh) annually of electricity for the Alvarado Filtration Plant.
- 2) Allow Sun Edison SD LLC to install, own, operate, maintain and generate renewable energy from Photovoltaics at the Alvarado Filtration Plant.
- 3) Establish a partnership between the City of San Diego and Sun Edison SD LLC for the purpose of installing maintaining and generating electricity from Photovoltaics at other City owned sites over the next 5 years.
- 4) Authorize the Mayor or his Designee to negotiate future Power Purchase Agreements, over the next five years with Sun Edison SD LLC for the purpose of owning, installing, operating and maintaining Photovoltaics at other City owned facilities. These will require City Council's approval in future actions.

SUMMARY:

On August 7, 2004 the Mayor and the City Council adopted a 50 megawatt renewable energy goal for the City of San Diego. Since then, the Energy Division has pursued the installation of Photovoltaics on City owned facilities. Over the past two years the Energy Division has recommended the installation of renewable power generation systems, Photovoltaics, when installing energy efficiency measures at City owned facilities. In May of 2003, the Energy Division revised the City's Sustainable Building Policy, Council Policy 900-14 to include that all

new City owned facilities be designed and constructed to the US Green Building Council (USGBC) Leadership in Energy and Environmental Design (LEED), silver level standard.

Additionally, Council Policy 900-14 encourages the installation of Photovoltaics on all new City owned facility. The goal of the Council Policy was to install photovoltaics to offset a minimum of 10 percent of the facility's energy load, with a goal of offsetting 20 percent.

Over the past three years, various City departments have installed Photovoltaic systems either as a part of energy retrofit projects or as an integral part of designing and building to the USGBC LEED silver level standard for green building design and construction.

In early 2005, the Energy Division developed a Request for Qualification targeted towards firms or a team of firms that could provide the City with renewable power at prices equal to or better than the local utility. More than 700 firms were issued copies of the Request for Qualification. Ultimately, six firms responded to the Request for Qualification. The City interviewed each of the teams and determined that 3 of the 6 teams were best qualified to move onto the Request for Proposal's contract review and power purchase negotiations.

During the final selection process, Sun Edison SD LLC provided the City with the best proposal for the design, installation and maintenance of a large scale photovoltaic installation at the Alvarado Filtration Plant. Additionally, Sun Edison SD LLC provided the best purchase price per kilowatt hour.

In support of City renewable energy goal, the Energy Division continues to pursue opportunities relating to the installation of cost effective, reliable photovoltaics. Until recently, the installation of large scale photovoltaics hasn't been cost effective for local tax exempt government agencies.

The Energy Division has determined that by allowing a third party to own, operate, maintain, generate electricity and finance the entire capital cost of the project, the City is able to avoid a 6.5 million dollar capital outlay for every one megawatt of Photovoltaics installed on City owned facilities. Rather, the City will only purchase the power generated by the Photovoltaic system over its twenty year life expectancy and save approximately \$710,500 in electricity cost over the next twenty years at the Alvarado Filtration Plant.

Under the proposed terms of the Power Purchase Agreement, Sun Edison SD LLC will be responsible for designing and installing approximately 928 kilowatts of Photovoltaics at the Alvarado Filtration Plant, and provide for the future designs and installations of Photovoltaic systems at other City owned facilities over the next 5 years.

The proposed panel installation at the Alvarado Filtration Plant will be installed atop two large water storage tanks (Tanks 21 and 24) and the newly constructed Earl Thomas Tank, located at the entrance to the Alvarado Filtration Plant. The photovoltaic array will cover approximately 120,000 sq ft. of tank area and would provide enough electricity to power approximately 500 homes. The electricity generated by this system will offset the filtration plant's energy use by approximately 20 percent of its total energy requirement.

Installation of the Photovoltaics will be treated as a design build installation. The design phase will be subject to additional review by the Department of Health Services since the Photovoltaic array will be mounted on top of the concrete reservoirs. Sun Edison SD LLC will be responsible for satisfying the Department of Health Services requirements prior to ordering equipment and before the installation of the Photovoltaic Array. If the Department of Health Services deems that the reservoirs are an unsuitable location for such an installation then the City reserves the right to terminate the Power Purchase Agreement and pay Sun Edison SD LLC for design related costs in an amount not to exceed 58,000 dollars.

It is anticipated that construction will be completed in July of 2006, with the system fully operational in August of 2006.

Under this agreement, all Photovoltaic systems will be installed, owned, operated and maintained by Sun Edison SD LLC, for a period of 20 years from the date the systems are commissioned and begin generating electricity for the City of San Diego.

Authorizing this agreement with Sun Edison LLC will allow the City of San Diego to install large scale, cost effective, renewable energy at the Alvarado Filtration Plant. Additionally, a 5 year partnership with Sun Edison LLC will allow the City to install similar systems on other City facilities. Over the next 5 years, the Energy Division plans on installing approximately 5 Megawatts of Photovoltaics on City owned facilities for various City departments.

The following alternatives are not recommended because they would result in continued higher energy costs to operate the Alvarado Filtration Plant and negate potential future savings for other City owned facilities.

- 1) Do not enter into a (20) twenty year power purchase agreement with Sun Edison SD LLC for the purpose of purchasing 1.39 million kilowatt hours (kWh) of electricity for the Alvarado Filtration Plant.
- 2) Do not allow Sun Edison SD LLC to install, own, operate, maintain and generate renewable energy from Photovoltaics at the Alvarado Filtration Plant.
- 3) Do not establish a partnership between the City of San Diego and Sun Edison SD LLC for the purpose of installing maintaining and generating electricity from Photovoltaics at other City owned sites over the next 5 years.
- 4) Do not authorize the Mayor or his Designee to negotiate future Power Purchase Agreements, over the next five years with Sun Edison SD LLC for the purpose of owning, installing, operating and maintaining Photovoltaics at other City owned facilities. Do not require City Council's approval in future actions.

FISCAL CONSIDERATIONS:

The installation of Photovoltaics at the Alvarado Filtration Plant will save the City approximately \$710,500 dollars in energy cost at the Alvarado Treatment Plant over the next twenty years. Future energy pricing is anticipated to increase at a rate of 2 percent per year. The cost of renewable energy under this proposed agreement is fixed at 0.12 cents per kilowatt hour

(kWh) in the first year, with an escalation of 1 percent per year over the next twenty years. Currently, the average energy cost for the Alvarado Filtration Plant is 0.13 cents per kWh.

Under this agreement with Sun Edison SD LLC, the City is proposing the installation of up to 5 megawatts of Photovoltaics on various City owned facilities over the next five years. Since the systems will be owned, operated and maintained by Sun Edison SD LLC, the City's avoided capital cost for each megawatt of Photovoltaics installed is approximately 6.5 million dollars. The potential avoided capital outlay for 5 megawatts over the next five years is estimated to be 32.5 million dollars. Additionally, the City will save approximately \$710,500 on its electricity cost for each megawatt installed over the life of each system. The total potential energy savings over the next twenty five years is estimated to be 3.5 million dollars.

PREVIOUS COUNCIL and/or COMMITTEE ACTION:

On September 14, 2004 the Rule, Finance and International Relations Committee voted 5-0 to direct the City Manager to issue a Request for Proposal (RFP) to develop partnership(s) to install solar systems using funding methods that minimize impact to City funds.

COMMUNITY PARTICIPATION AND PUBLIC OUTREACH EFFORTS:

In January 2005 the Environmental Services Department, Energy Conservation and Management Division advertised a Request for Qualification and Proposal. The City placed advertisements in the San Diego Daily Transcript, the Voice and the Viewpoint.

KEY STAKE HOLDERS & PROJECTED IMPACTS:

Sun Edison LLC is the primary stake holder on this project. The Investor Company providing financing to Sun Edison LLC for the installation of 928 kilowatts of Photovoltaics is Goldman Sacks.

Respectfully submitted,

Tom Blair
Deputy Director, Energy Division

Elmer L. Heap
Director, Environmental Services Dept.

Charles Yackly
Acting Director, Water Department

Approved: R. F. Hass
Deputy Chief of Public Works

HEAP/BLAIR/JH/jh